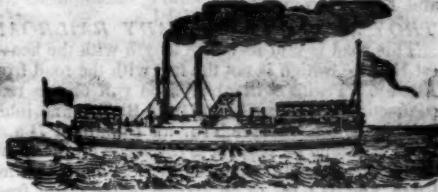
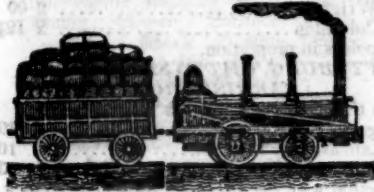


AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY

AND MINES.



ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS PER ANNUM.

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[WHOLE NO. 558, VOL. XX.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,

PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, in advance.

RATES OF ADVERTISING.

One page per annum.....	\$125 00
One column "	50 00
One square "	15 00
One page per month.....	20 00
One column "	8 00
One square "	2 50
One page, single insertion.....	8 00
One column ""	3 00
One square ""	1 00
Professional notices per annum.	5 00

BOSTON AND PROVIDENCE RAIL-
road. Passenger Notice. Summer Arrange-
ment. On and after Mon-
day, Sept. 28, 1846, the Pas-
senger Trains will run as follows:

For New York—Night Line, via Stonington.
Leaves Boston every day, but Sunday, at 5 p.m.

Accommodation Trains, leave Boston at 7 1/2 a.m. and 3 1/2 p.m., and Providence at 8 a.m. and 3 1/2 p.m.
Dedham trains, leave Boston at 9 a.m.; 3 p.m., 5 1/2 p.m., and 10 1/2 p.m. Leave Dedham at 8 a.m. and 4 1/2 and 9 p.m.

Stoughton trains, leave Boston at 11 1/2 a.m. and 4 10 p.m. Leave Stoughton at 8 a.m. and 2 1/2 p.m.

All baggage at the risk of the owners thereof.

31 ly W. RAYMOND LEE, Sup't.

BRANCH RAILROAD and STAGES CON-
necting with the Boston and Providence Railroad.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

BOSTON AND MAINE RAILROAD.

Upper Route, Boston to Portland via, Reading,
Andover, Haverhill, Exeter, Dover,
Great Falls, South & North Berwick, Wells, Kennebunk and Saco.

Winter Arrangement, 1846-7.

On and after October 5th, 1846, Passenger Trains will leave daily, (Sundays excepted,) as follows:

Boston for Portland at 7 1/2 a.m. and 2 1/2 p.m.

Boston for Great Falls at 7 1/2 a.m., 2 1/2 and 3 25 p.m.

Boston for Haverhill at 7 1/2 and 11 1/2 a.m., 2 1/2, 3 25 and 5 p.m.

Boston for Reading at 7 1/2, and 11 1/2 a.m., 2 1/2, 3 25 and 6 1/2 p.m.

Portland for Boston at 7 1/2 a.m., and 3 p.m.

Great Falls for Boston at 6 1/2 and 9 1/2 a.m., and 4 1/2 p.m.

Haverhill for Boston at 7 1/2, 8 1/2, and 11 a.m. and 3 and 6 1/2 p.m.

Reading for Boston at 7, 8 1/2 and 9 1/2 a.m., 12 m., 1 1/2, 4 and 7 1/2 p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above \$500 in value, and that personal Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every \$500 additional value.

1y31 CHAS. MINOT, Super't.

PHILADELPHIA AND READING RAIL- ROAD.—Passenger Train Arrangement for

1847. A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 1/2 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares. Miles. No. 1. No. 2.
Between Phila. and Pottsville, 92 \$3 50 and \$3 00
" " Reading, 58 2 25 and 1 90
" Pottsville " 34 1 40 and 1 20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets.

LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1 25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above.

351y

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April

1st until further notice, will run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS

Leave New York at 7 A. M. and 4 P. M.

" Middletown at 6 1/2 A. M. and 5 1/2 P. M.

FARE REDUCED to \$1 25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT

Leave New York at 5 P. M.
Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P. M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Sup't. March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board. 13 tf

NORWICH AND WORCESTER RAIL- ROAD. Summer Arrangement, commencing

Monday, April 6, 1846.

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4 1/2 p.m. Leave Worcester, at 10 a.m., and 4 1/2 p.m.

The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 1 1/2 p.m. train from Boston.

New York Train via Long Island Railroad; Leave Allyn's Point for Boston, about 1 p.m., daily, except Sunday.

Leave Worcester for New York, about 10 a.m., stopping at Webster, Danielsonville, and Norwich.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the steamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 4 p.m., daily, except Sunday, stopping at Webster, Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Special contracts will be made for cargoes, or large quantities of freight, on application to the superintendent.

Fares are less when paid for Tickets than when paid in the Cars.

J. W. STOWELL, Sup't.

TROY RAILROADS. —IMPORTANT NOTICE.—Troy and Greenbush Railroad, forming a continuous track from Boston to Buffalo and Saratoga Springs.

This road is new, and laid with the heaviest iron H rail. Trains will always be run on this road connecting at Greenbush each way with the trains to and from Boston and intermediate places, leaving Greenbush daily at 1 p.m. and 6 p.m., or on arrival of the trains from Boston; leave Troy at 7 a.m. and 4 p.m., or to connect with trains to Boston.

Trains also run hourly on this road between Troy and Albany. Running time between Greenbush and Troy, 15 minutes.

TROY AND SCHENECTADY RAILROAD.

This road is laid its entire length with the heaviest H rail, which is not the fact with the road from Albany. Trains will always be run on this road connecting each way, to and from Buffalo and intermediate places. Leave Troy for Buffalo at 7 a.m. and 1 p.m. and 6 p.m., or to connect with the trains for the west; leave Schenectady at 2 a.m., 8 a.m., 1 p.m. and 3 p.m., or on arrival of the trains from Buffalo and intermediate places.

TROY AND SARATOGA RAILROAD.

THE ONLY DIRECT ROUTE.

No change of passenger, baggage or other cars on this route. Cars leave Troy for Ballston, Saratoga Springs, Lake George and White Hall at 7 a.m., (arriving one hour in advance of the train from Albany,) and at 3 p.m. Returning, leave Saratoga at 9 a.m. and 3 p.m., (reaching Troy in time for the evening boats to New York.) Cars also leave Troy for the Burrough at 3 p.m. and 7 p.m., connecting with packet boats for the north. This takes passengers from New York and Boston to Montreal in 44 hours.

N.B. Travellers will find the routes through Troy most convenient and economical, and as expeditious as any other. The steamboats to and from New York land within a few steps of the railroad office, and passengers are taken up and landed by the different railroad lines at the doors of principal hotels, thus saving all necessity for, and annoyance from, hack drivers, cabmen, runners, etc.

Aug. 3, 1846. 1y 32

BALTIMORE AND OHIO RAILROAD.

MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7 a.m.

Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburg and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5 A.M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P.M., and from Frederick to Baltimore at 8 A.M.

WASHINGTON BRANCH.

Daily trains at 9 A.M. and 5 P.M. and 12 at night from Baltimore and at 6 A.M. and 5 p.m. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare \$1.60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. 1y 31

MANUFACTURE OF PATENT WIRE

Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, Civil Engineer,

Pittsburgh, Pa.

These Ropes are in successful operation on the Planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plate No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition.

2v19 ly

NEW RAILROAD ROUTE FROM BUFFALO to Cincinnati.

Passengers destined for Columbus and Cincinnati, Louisville, Ky., St. Louis, Mo., Memphis, Tenn., Vicksburg, Natchez, New Orleans, and all intermediate ports, will find a new, and the most expeditious and comfortable Route, by taking Steamboats at Buffalo, landing at Sandusky City, Ohio, distance 230 miles. From thence by Cars, over the Mansfield

Railroad which is new and just opened [laid with heavy Iron.] to Mansfield, distance..... 56 "

Thence by Stage via Columbus to Xenia over gravel and Macadamized Road, (the best in the state,) in new coaches, distance..... 88 "

Thence, over the Little Miami Railroad, from Xenia to Cincinnati, distance..... 65 "

TIME.

From Buffalo to Sandusky..... 24 hours.

Leave Sandusky 5 a.m. to Columbus..... 14 "

From Columbus to Cincinnati..... 15 "

Or say 30 hours from Sandusky to Cincinnati over this route, including delays.

FARE.

From Buffalo to Sandusky, Cabin..... \$6 00

" " " Steerage..... 3 00

" Sandusky to Columbus..... 4 50

" " " through to Cincinnati..... 8 00

Passengers should not omit to pay their fare through from Sandusky City to Cincinnati and take receipts availing themselves of the benefit of a contract existing between the said Railroad and Stage Co's, securing 121 miles travel by good Railroad and 88 miles by Stage, in crossing from Lake Erie to the Ohio river, in the space of 30 hours.

Passengers destined for St. Louis, or any point below on the Mississippi, will save by taking this route, from 4 to 6 days time and travel, and nearly half the expense, over the Chicago and Peoria route to the above places.

Fare by this route, although the cheapest, will in a short time be reduced, Railroad lengthened, and speed increased.

B. HIGGINSON, Sup't, etc.

M. & S. C. R. R. Co.

Sandusky City, Ohio.

NEW YORK & HARLEM RAILROAD CO.—Winter Arrangement.

On and after Monday, November 23, 1846, the cars will run as follows:

Leave 27th street for 42d street, Deaf and Dumb Institute, Yorkville, Harlem Morrianna, and Williams' Bridge, at 7 o'clock a.m. From City Hall for above named places, 2 p.m. [freight train], 2 30 p.m. 5 p.m. to Morrisania only.

Leave City Hall for Harlem, Morrisania, Fordham and Williams' Bridge, at 7 45 a.m., and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], 2 30 p.m. and 3 45 p.m.

Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corner, White Plains, Davis' Brook, Unionville and Pleasantville, [Pleasantville 4 miles from Sing Sing,] 7 45 and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], and 3 45 p.m.

RETURNING.

Leave Pleasantville, at 8, 10, [freight train], and 11, a.m.; 1 20, and 4, p.m.

Leave White Plains, at 8 12, 10 30, [freight train] and 11 20 a.m.; 1 50, and 4 20, p.m.

Leave Tuckahoe, 8 35, 10 55, [freight train,] and 11 35, a.m.; 2 05, and 4 35, p.m.

Leave Williams' Bridge at 7 45, 8 50 and 11 50 a.m.; 2 10, 4, and 4 50 p.m.

Leave Morrisania 8 and 9 05 a.m.; 12 05, 2 35, 4 20, 5 05 and 6 p.m.

Leave Yorkville, at 8 12 a.m.; 4 35 and 6 15 p.m.

SUNDAY ARRANGEMENTS.

Leave City Hall for Pleasantville and intermediate places, at 7 45 a.m.; 1 15 and 3 p.m.

Leave Pleasantville for City Hall, at 8 a.m.; 11, and 3 15 p.m.

Leave City Hall for Williams' Bridge and intermediate places, 10 45 a.m.; 2 30 p.m.

Leave Williams' Bridge for City Hall, at 8 50 and 11 50 a.m.; 1, 3 45 and 4 05 p.m.

BALTIMORE AND SUSQUEHANNA RAILROAD.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger

trains run daily, except Sunday, as follows:

Leaves Baltimore at..... 9 a.m. and 3 1/2 p.m.

Arrives at..... 9 a.m. and 6 1/2 p.m.

Leaves York at..... 5 a.m. and 3 p.m.

Arrives at..... 12 1/2 p.m. and 8 p.m.

Leaves York for Columbia at..... 1 1/2 p.m. and 8 a.m.

Leaves Columbia for York at..... 8 a.m. and 2 p.m.

FARE.

Fare to York..... \$1 50

" Wrightsville..... 2 00

" Columbia..... 2 12

Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... \$9

Or via Lancaster by railroad..... 10

Through tickets to Harrisburg or Gettysburg..... 3

In connection with the afternoon train at 3 o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at..... 5 p.m.

Returning, leaves Owing's Mills at..... 7 a.m.

D. C. H. BORDLEY, Sup't.

Ticket Office, 63 North st.

CENTRAL RAILROAD—FROM SAVANNAH to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight.

Rates of Passage, \$3 00. Freight—

On weight goods generally... 50 cts. per hundred.

On measurement goods..... 13 cts. per cubic ft.

On brls. wet (except molasses and oil)..... \$1 50 per barrel.

On brls. dry (except lime).... 80 cts. per barrel.

On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.

On hhd's. and pipes of liquor, not over 120 gallons..... \$5 00 per hhd.

On molasses and oil..... \$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE, Gen'l. Sup't. Transportation.

THE BEST RAILROAD ROUTE TO THE Lake and Buffalo, from Cincinnati.

Take Cars to Xenia, 65 miles; thence by Stage to Mansfield, 88 miles; thence by Cars to Sandusky, 56 miles to the Lake; thence Steamboat to Buffalo, 230 miles.

Fare from Cincinnati to Sandusky..... \$8 00

" Sandusky to Buffalo, Cabin..... 6 00

" " " Steerage..... 4 50

Fare by this route, although the cheapest across the state, will be reduced in a short time, railroad lengthened, and speed increased.

Leave Cincinnati in the morning, arrive at Columbus at night.

Leave Columbus in the morning, arrive at Sandusky same day.

Leave Sandusky, by Boat, in the morning, arrive at Buffalo next morning in time for the Cars north and east for Niagara Falls, Canada, Saratoga Springs, Troy, Albany, Boston, New York, Washington, or Philadelphia.

Passengers should not omit to pay their fare through from Cincinnati to Sandusky, or from Columbus to Sandusky via Mansfield; as this route is the only one that secures 56 miles [this road is run over in 2h. 50m.] most railroad which is new, and is the shortest, cheapest and most expeditious across the state.

Fares on the New York railroads are about to be reduced.

B. HIGGINS, Sup't, etc.

Sandusky, Ohio. M. & S. C. R. R. Co.

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.

New York.

CENTRAL AND MACON AND WESTERN RAILROADS.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

Savannah to Macon—Central Railroad 190
Macon to Atlanta—Macon and Western 101
Atlanta to Oothcaloga—Western and Atlantic. 80
Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

	Miles.	To	Oothcaloga.
On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	\$0 50	\$0 75	
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62½	
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	0 20	0 26	
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20 pr. 100 lbs. 35		
Crockery, per cubic foot.....	0 15 " - " 35		
Molasses and Oil, per hhd., (smaller casks in proportion). 9 00	12 50		
Ploughs, (large) Cultivators, Corn Shellers, and Straw Cutters, each.....	1 25	1 50	
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05	
Salt, per Liverpool Sack.....	0 70	0 95	
Passage—Savannah to Atlanta, \$10; Children, under 12 years of age, half price, Savannah to Macon, \$7.			
Goods consigned to the subscriber will be forwarded free of Commissions.			
Freight may be paid at Savannah, Atlanta or Oothcaloga.			

F. WINTER, Forwarding Agent, C. R. R.
Savannah, Aug. 15th, 1846. 1y34

GRAT SOUTHERN MAIL LINE! VIA
Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4 P.M., Philadelphia at 10 P.M., and Baltimore at 6 A.M., proceed without delay at any point, by this line, reaching Richmond in eleven, Petersburg in thirteen and a half hours, and Charleston, S. C., in two days from Baltimore.

Fare from Baltimore to Charleston. \$21 00
" " " Richmond. 6 60

For Tickets, or further information, apply at the Southern Ticket Office, adjoining the Washington Railroad Office, Pratt street, Baltimore, to 1y14 STOCTON & FALLS, Agents.

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLIOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
Philadelphia, Pa.

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES. AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHCALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and the Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothcaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.

	Between Augusta and Oothcaloga.	Between Charlotte and Oothcaloga.
1st class. Boxes of Hats, Bonnets, and Furniture, per cubic foot.....	\$0 16	\$0 25
2d class. Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	0 90	1 40
3d class. Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Bar and Sheet Iron, Hollow Ware & Castings, Crockery, etc.....	0 55	0 75
4th class. Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Feathers, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 37½	0 62½
Cotton, per 100 lbs.....	0 45	0 65
Molasses, per hoghead.....	8 50	13 50
" barrel....	2 00	3 25
Salt per bushel.....	0 17	95
Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows....	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothcaloga.

J. EDGAR THOMSON,
Eng. and Gen. Agent.
Augusta, Sept. 2d, 1846. 44 1y

THE WESTERN AND ATLANTIC RAILROAD.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warren, Huntsville, Decatur and Tuscaloosa, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.
Winter Arrangement.

Philadelphia for Baltimore. 8 a.m. and 4 p.m.
Baltimore for Philadelphia. 9 a.m. and 8 p.m.
Connecting in Baltimore with Mail Lines south and west, as per notice of the Baltimore and Ohio Railroad—and with Mail Lines north from Philadelphia, both morning and afternoon.

Sundays, the Morning Lines do not run in either direction.

Accommodation train from Wilmington to Philadelphia, leaves Wilmington at 8 a.m., and returns at 2 p.m. J. R. TRIMBLE,
Engineer and General Superintendent.

LITTLE MIAMI RAILROAD—OPEN **L TO SPRINGFIELD**—Distance 84 miles—

connecting at Xinia and Springfield with Messrs. Neil, Moore, & Co.'s daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City, via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columbus, Delaware, and the Mansfield and Sandusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as follows: Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon. \$1 00
" " Xenia 1 50
" " Springfield. 2 00
" " Columbus. 4 00
" " Sandusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every \$500 in value over that amount.

The 14 P. M. train from Cincinnati, and the 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.
47if W. H. CLEMENT, Sup't.

SOUTH CAROLINA RAILROAD.—A

Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily. \$26 50

Fare through from Charleston to Huntsville, Decatur and Tuscumbia. 22 00

The South Carolina Railroad Co. engage to receive merchandise consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

1y25 JOHN KING, Jr, Agent.

LAWRENCE'S ROSENDALE HYDRAULIC CEMENT. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Fleoms and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper, barrels, by JOHN W. LAWRENCE,
149 Front street, New York.

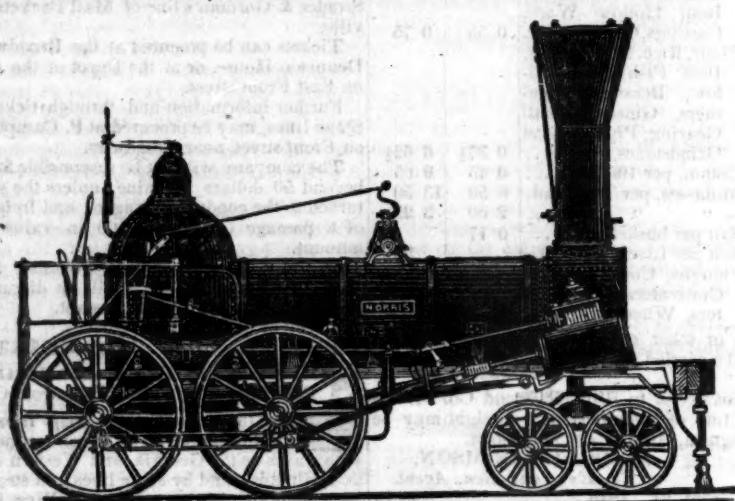
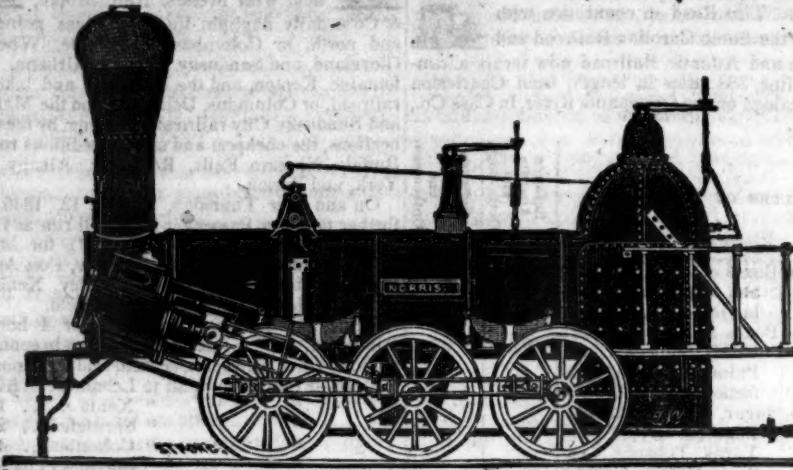
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MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class 1.	15	inches Diameter of Cylinder,	× 20	inches Stroke.
" 2.	14	" "	× 24	" "
" 3.	14½	" "	× 20	" "
" 4.	12½	" "	× 20	" "
" 5.	11½	" "	× 20	" "
" 6.	10½	" "	× 18	" "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion.

Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Tires of Locomotives, Tenders and Cars.

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Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

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WELDED WROUGHT IRON TUBES

From 4 inches to $\frac{1}{2}$ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER PLUM.



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TO LOCOMOTIVE AND MARINE ENGINE Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

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PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly indestructible. The prices are less than those of iron or lead. We also manufacture Basins and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 112 Fulton street, New York.

J. BALL & CO.

Kennebec Railroad.

The following article on the merits of the Androscoggin and Kennebec railroad, appeared in a late number of the Boston Daily Advertiser:

"I saw some days since an article in your paper respecting the construction of the Portland and Kennebec railroad extending from Portland up the Kennebec river to Augusta. It is well understood by some in Boston, doubtless, that there are two railroads penetrating the interior of Maine now talked of; the one above alluded to, and the Androscoggin and Kennebec railroad, extending from Danville near Lewiston, and thence through the interior of Waterville, 18 miles above Augusta on the Kennebec river. The former, with the branch to Bath, is 67 miles long, and the latter 50 miles in length. The projectors of the latter also intend to form a junction with the Atlantic and St. Lawrence road at Danville, and by some arrangement with the directors of that road, to run over it to Portland and there to connect with some road, and thence to Boston. The question will naturally arise, in which of these roads is Boston enterprise and Boston capital most interested to see constructed? Maine has been and is now one of our best customers, and what our merchants, and mechanics, and manufacturers desire, is to see new resources developed and additional capacities to exchange commodities and to purchase created: now this road from Portland upon the banks or near the Kennebec river, will give no spring to business in the interior of Maine. It will exert comparatively no influence as a means of transportation and communication any farther back from the river, than the river itself has; except the winter season.—The farmer in the interior will have no additional advantages for disposing of surplus products, and consequently no additional inducements for raising any. Nor will it tend at all to bring into use the splendid water power which the interior of Maine possesses. All the surplus products and commodities, within such distance from the river as will warrant the owner to haul them, now find their way to the river towns, and thence to Boston or elsewhere, and it is not perceived how this railroad to Augusta will tend to augment the amount. On the contrary, the road from Lewiston to Waterville, runs thro' and near to the very garden of that State.—The inhabitants of the counties of Somerset and Franklin, and the northern and western portion of the county of Kennebec, have long suffered for want of facilities to transport to a market the products of the country. The trader in many parts of that section of the State for want of those facilities which a railroad would give, cannot afford to take in exchange or purchase at remunerating prices the products of the farm, and hence there is no inducement to the farmer to raise a surplus. This railroad pursuing its course from Lewiston to Waterville, a distance from 12 to 18 miles from the river until it reaches Waterville, is destined, if constructed, to infuse new vigor into every department of industry in the region through which it goes. There is no reason except the want of facilities for trans-

portation, why Winthrop, Redfield, Farmington, and Waterville, should not do as profitable and extensive business in trade as Gardiner, Hallowell, and Augusta. They are surrounded by a dense population, and in the midst of a territory incomparably more fertile and productive. It is this road then which the business men of Boston should look to as opening to them new capacities to purchase, and increased ability to become consumers. Nor let it be said that all the benefits, resulting from opening this road through this thickly settled and fertile region, will inure to Portland. The people of that section of that State, as well as of the other portions of it, look to Boston as the centre of trade, and will continue so to do so long as Boston can hold out superior inducements. It is known to your correspondent that liberal arrangements have already been made with the Atlantic and St. Lawrence road, whereby freight and passengers shall go from their road upon some road leading to Boston with the same facilities and ease as they will go from any other road coming to Portland from the interior of Maine. Such being the case, Boston and Portland are left, so far as these railroads are concerned, fairly to compete with each other in securing to themselves the products of the interior of Maine. And this is right, and all that the merchants of either city should expect. Both will doubtless be greatly benefited by its being opened, and the people in the interior more so for having the advantage of both markets. If our views of the effect of these two roads upon the growth, enterprise and productive energies of Maine are correct, most manifest is it that Boston merchants and Boston enterprise has infinitely more to hope from the construction of the interior road through Maine than from that along the river. At an early day the inquiry in which road is Boston capital most interested, will be considered.

Railroads on the Continent of Europe.

The same article in the Edinburgh Review from which we have gleaned some interesting statistics relative to English railroads, contains others relating to those on the continent of Europe. We condense them, hoping that they may not be found uninteresting or useless.

The little kingdom of Belgium was the first that followed the example of England, and turned its attention to the construction of railroads. This it did, in order that its commerce might not suffer from the effects of the revolution of 1830, which, by sundering the union of Belgium and Holland, cut off the former from the use of the mouths of the Scheldt. Four great lines were built. The first, or eastern line, running from Malines to Cologne, by Louvain, Tirlemont, Laudon, Waremme, Liege, and Verviers, with a branch to St. Trond, is 91 miles in length. The western line, from Malines to the sea on the north, by the Termond, Ghent, Bruges and Ostend, with a branch from Ghent to the French frontier by Menin and Courtrai, is 126 miles in length. The northern line, from Malines to Antwerp, with a branch to Lievre, is 16 miles long; and the southern, to the French frontier, by Brussels and Mons,

with a branch to Charleroi and Namur, is 115 miles long. The whole number of miles is 348. The first road was opened in 1837, and was quickly followed by that of the others. The effect on travel on some portions of these lines, was astounding. Between Brussels and Antwerp, the number of passengers increased from 75,000 per annum, to one million! The cost of the Belgian roads, has been about \$80,000 per mile. Low fares and low rates for transportation of merchandise exist; as the roads were intended by government, not as sources of profit, but for the accommodation of the whole public. Four per cent. is cleared, which is all that is desired, as it equals the interest of the capital sunk. The facts in the history of these roads, agree with those derived from that of the British roads, in respect to short travel, etc. The arrangements for the conveyance of all kinds of merchandise, at the lowest possible rates, are most admirable, and the consequence is seen in the enormous increase of traffic. "In 1841, before they were matured," says our authority, "the total receipts for merchandise were £19,000. In 1841, its amount was £177,800! Before the establishment of the eastern branch of the railway, the highest amount of heavy goods sent to the German frontier, by the old conveyance, was 12,000 tons; in 1844, the amount transported was 67,500 tons! In 1842, before the railway took the traffic, the amount of light goods was 194,000 tons; in 1844, it exceeded 500,000 tons!" Well may the reviewer say, that considered relatively to the population and territory of Belgium, this is the greatest work of public utility which any European state has executed in our times. To afford to inferior places a direct participation in the benefits of the system, private companies, under the authority of the state, have undertaken the construction of about 200 miles of railroad, the lines thus made to communicate between those towns and the great lines.

France has at length waked up from that unaccountable stupidity on the subject of railroads, in which she, the first of scientific countries, so long indulged. A few small lines were built to 1842, in which year the government came to the conclusion to plan and execute a system of railroads. "It was determined, that from Paris, as a centre, main branch lines should issue, to be directed to those points of the frontier, by land and sea, that should best serve the purposes of foreign commerce; and that the demands of the interior should be consulted in the routes which these lines should follow in passing through it, and in the various ramifications which they should throw off." Six lines were planned. The first goes northward to Belgium, with the roads of which country it will unite near Lille and Valenciennes, having branches to Amiens and Lille, and communicating with the British Channel at Dunkirk, Boulogne, and Calais—"thus opening a rapid and easy communication with England, and affording a means of travel with the fifth commercial port, and the great granary of the northern section of the kingdom." The

second line goes from Paris southward, by the way of Orleans, Tours, Poitiers, Angouleme, and Bourdeaux, having its southern terminus at Bayonne, its object being to aid the trade with Spain. From this road, branches are thrown off to Nantes and Vierzon. The third line takes an eastern course, through Champagne and Lorraine, to Strasbourg and Bale, and having a branch to Metz. It will unite with the German railroads. The fourth proceeds from Paris to Brest, through Rennes, and is to strike the Atlantic shore in that quarter. Another line is to run south, and strike the base of the Pyrenees, opening a route to the centre of Spain, via Saragossa. The sixth line goes to Rouen, and has branches to Dieppe and Havre.—Two other lines have been projected, "proceeding from Marseilles, one leading to the Atlantic at Bordeaux, and the other communicating by Lyons with Switzerland, Alsace, and northern Germany; and running into the eastern line from Paris, at Dijon." The entire length of these roads and their branches will be 3335; and judging from the cost of what had been completed at the close of 1844, the entire cost would be not quite \$100,000 per mile, or for the whole about \$330,000,000. About 1000 miles were completed at the end of last year. The undertaking is governmental, and the system is made with reference to the comfort, convenience and economy of the people. Fares are low, and the third class cars are, in all respects, better in France, than the second class are in England. "They order these things better in France," can be said now, though in reference to widely different matters, quite as correctly as in the days of Stern. Until the whole undertaking is completed, it cannot be possible to say what will be the profits on a railway investment in France on a large scale; but thus far it has averaged, in these lines, 4½ per cent. Short travel is the most productive.

Austria has entered upon railroad construction with a zeal we had hardly expected in a state so wedded to old uses and abuses, and so averse to every kind of improvement. From Vienna run four great lines; one to the south, through Gratz and Laybach, to Trieste; one to the north, via Prague, to the line of Saxony, having "a branch to form a union by Olmutz with the great line through Prussian Silesia;" one to the east, connecting Hungary with the capital, running by Pesth and Debreczin; and the fourth to Munich, the capital of Bavaria, by Lintz. "By these," says the reviewer, "a profitable communication will be opened with those rich and hitherto inaccessible tracts of eastern Europe intersected by the valley of the Danube—possessing vast pasturages, regions fertile in wheat, maize, and rice, flourishing plantations of hemp and tobacco, and extensive vineyards." Austria has other roads in view, the construction of which will unite the northern seas with the Adriatic. In her Italian possessions, Austria has under way a railroad about 200 miles long, connecting Milan with Venice. From the latter city, there is excellent steam navigation to Trieste,

where terminates the great northern and southern road. When completed, these roads will number 1935 miles. Prussia has not been behind Austria in this species of noble enterprize. She has projected railroads amounting to 1063 miles, the greater part of which has been completed. Lines run from Berlin, striking Cologne, on the Rhine, and Frankfurt-on-the-Main, the first connecting with the Belgian roads, and the second with those of France. Another line takes an eastern direction, going towards Russia, by the way of Frankfort-on-the-Oder, Posen, Dantzig, and Kenigsberg. One goes to Hamburg, from Berlin, another to Stettin, and a third to Silesia, in which province it will communicate with the Austrian northern line, and make the connection between the Mediterranean and the Baltic and the northern waters generally, a somewhat more easy matter than it was in the most glorious days of the Hanseatic League. Some other lines are under contemplation, among which are one direct from Berlin to Dresden, and another from Lippstadt to Cassel. The east or the Prussian lines, so far as ascertained, has been about \$43,000 per mile; average dividends, 5½ per cent. Bavaria has under way three great lines, one connecting the Prusso-Saxon line at Hof with Lindau, on the Lake of Constance, by the way of Augsburg, Donauwörth, Nuremberg, and Bamberg. The second line runs east and west, connecting with the Austrian roads on one side, and with those of Württemberg and Baden on the other. The third runs from Bamberg to Frankfort-on-the-Main, where it connects with several lines which centre at that point. Besides these great undertakings of the leading Germanic powers, the minor states of that country have done much for the same purpose—Saxony, Hesse, Hanover, Brunswick, Mecklenburg, and the Hanse House, have planned about 1700 miles in all, several hundred of which are already in working order. These latter roads are all well calculated to increase the usefulness of the lines of Austria, Russia, and Bavaria; and it may be remarked, that although these several enterprises have been undertaken by different nations, yet, "partly from the physical character of the countries, and partly from the distribution of the population and seats of industry, and a consequent harmony of interests, they have of themselves assumed a considerable uniformity of plan; and the Germanic states will, ere long, be overspread by one of the most magnificent systems of interior communication of which Europe can afford an example." It would afford us much pleasure to go more into detail on this great system, so creditable to the German people and governments, showing its effects on commerce, travel, etc., but our limits forbid. The whole number of miles, built, under way, or planned, is 7600, English, the cost of which will be not far from \$330,000,000, averaging about \$45,000,000 per mile. The effect on the price of labor has been excellent, causing its rise about 33 per cent. Eight millions of laborers were employed on the roads in 1844.

Russia has under way, one railroad from

St. Petersburg to Cracow, via Warsaw, which is to unite with the German lines. A second connects St. Petersburg with Moscow; the third will commence at the terminus of the Austrian railroad in Hungary, and proceed to Odessa, the great emporium of Southern Russia, and the chief port on the Black Sea. A merchandise line is to connect the rivers Dunna and Volga. These roads will be in length 1600 miles. The Edinburg says nothing of the continuation of the great Russian road from St. Petersburg to Moscow; but we have seen it stated by other authorities, that it is the intention of the Russian government to continue that road from Moscow to Astrachan, on the Caspian Sea—an idea almost worthy to compare with that of opening a road from the Western Lakes to the Pacific.

In Holland, a railroad has been made from Amsterdam to Rotterdam, 53 miles, intended to be a double track. A road has been constructed from Amsterdam to the Prussian frontier, and opened to Arnheim, 58 miles. The first road cost less than \$25,000 per mile; the second about \$70,000. Other lines are to be constructed on quite a large scale, by private companies, but under the superintendence of government.

In the Italian States, Spain, Portugal, Sweden, etc., nothing, or next to nothing, has yet been done in the way of constructing railroads, though it is probable that all of them will soon become alive to the necessity of entering upon the work. The liberal and enterprising character of the new Roman pontiff is favorable to the prospects of Italy; and perhaps, ere many years have elapsed, pilgrims to the eternal city, may course at the rate of 20 or 30 miles an hour over the Flaminian and Appian ways.

*From the Pittsburg Gazette.
The Great Central Railroad from Philadelphia to St. Louis.*

The object of my lectures was to present to the people of Pittsburg a plan for the extension of the Central railroad in a direct line to St. Louis, through the States of Ohio, Indiana and Illinois, thereby securing the trade of the west, which naturally ought to flow through Pennsylvania, but is now diverted to the Lakes and New York. After reviewing the merits of the leading routes proposed or in operation, from the seaboard to the west, we arrive at the conclusion that the Pennsylvania route is the best, for travel as well as freight. But it is considered necessary that the whole line from Philadelphia to St. Louis, which will not exceed 1000 miles in length, should form a continuous railroad without any transhipment. This line is to be built in the most substantial manner, and calculated for an annual business of 300,000 through passengers, and 250,000 tons of goods. The idea is, to form a *grand trunk line* of 1000 miles long, capable of accommodating the whole of the States west of Pittsburg. This trunk line will intersect all the improvements which traverse the western States in a north and south direction, connecting the lakes with the Ohio river. In place of establishing independent lines from here to Cleveland, Canton, or Co-

lumbus, one single central line is proposed, which, from its directness, good construction and management, will offer such great facilities of conveyance, that the different sections of the west, on both sides of this great thoroughfare, will find it their interest to form numerous lateral or branch roads. By the construction of a direct road to St. Louis, we will therefore lay the foundation for an immense system of railroad, all directed to Pittsburgh. Has a more magnificent scene ever been presented to our citizens? Is there any question before the public now which is of greater importance than the contemplated railroad connection with the east and west?

The whole success of this enterprise will depend upon the good sense of the people of Pittsburgh. Let us act as rational men, and divest ourselves of all feeling and prejudicial impressions. It is not only for ourselves who are interested in this matter; we only form the connecting link between the east and west. Our true interest is, to place ourselves in the best position towards both; it is impossible, and would be impolitic, to maintain a solitary stand. St. Louis, Cincinnati and the whole west, are directing their efforts towards New York, not by way of Pittsburgh, but by the lakes. The west feels the want of a continuous railroad to the seaboard.—The nearest, best, and cheapest route to Philadelphia, as well as New York, will be offered by the great Central railroad, passing through Pittsburgh, not stopping here, but only passing through. We must remember, that the great market for the west is in the east; we should remember, therefore, carefully to avoid throwing any obstacles in the way of this commerce. For this reason, there should be no transhipment from St. Louis to Philadelphia. The more facilities we offer, the greater will be the travel through our city. Whatever can be manufactured and purchased here, as cheap as in the east, will of course be ordered here. The western merchant will travel no further than necessary.

By establishing a road from here west, independent of the Pennsylvania road, we should injure the whole route, ourselves as well as the east and west: we should thereby give an undue advantage to the New York as well as the Virginia route.

On mature reflection, it will appear that on this question our interests are identical with those of the east and west.

As the travel on the great Central road will be very great, it is necessary to construct it substantially; a cheap and poorly constructed road will not attract much business, travellers will shun it, and keep out of its way. Moving at the rate of 25 to 30 miles per hour, requires a good track, and machinery.

The true interest of Pittsburgh is, to aid in the construction of a great road from the east to the far west, and to render this road capable of transporting cheaper and quicker than any other road. But this cannot be accomplished by dividing the business of the west between Philadelphia and Baltimore. To succeed with a good road, and to be enabled to transport at a low rate, we must do a heavy business—this is an established prin-

ciple in railroading. For the next quarter of a century, we will not have business enough to support two roads; the time, however, will come when the stock of the Connellsville railroad will be good, and this road will be wanted. The construction of that road at the present period, however, would be a highly injurious movement. Philadelphia will and must come here, there is no other way left for that city. We will bid them welcome! If the Baltimoreans insist upon coming here at their own expense, let them come, we shall not object. But we have no spare resources to aid them now. Our primary object is, and must be, to apply all our means and resources towards an early construction of the Central road west.

The shortest route to St. Louis, appears to be by way of Columbus and Indiana. The question as to the best route must, however, remain open, until decided by extensive surveys, under the charge of competent engineers.

Philadelphia will employ herself in perfecting the surveys here during this season. Let Pittsburgh and St. Louis join hands and commence the western surveys. No application need be made for charters, until the main direction of the route is determined on. Or, if charters are granted, they must allow sufficient latitude for the choice of routes.

It is important that negotiations between Pittsburgh and St. Louis should be opened at an early day, so that the great route may be decided on within the present year. This great improvement will, I have no doubt, influence the location of numerous railroads which have been projected throughout the western States; and it rests with us, to project and carry out one grand and uniform system, in place of running wild, in all directions, and without any good object in view.

JOHN A. ROEBLING.

Western Magnetic Telegraph.

The following letter in relation to the Western Telegraph, appears in a late number of the Cincinnati Gazette, from E. CASE, Esq., which will explain the numerous stories which have been going the rounds of the press, for the last few weeks. Mr. Case says:—

Various rumors being in circulation respecting the formation of a company, or of companies, to connect this city with Washington, Baltimore, Philadelphia, New York, Boston, etc., via Wheeling and Pittsburgh, and with New Orleans and St. Louis, via Louisville, the position of the undersigned renders it proper for him to state such facts in regard to the extension of the telegraph line as are of immediate interest to the people of the Mississippi Valley.

He has obtained a legal transfer from the patentees of their right to construct a line or lines of magnetic telegraph, connecting the cities of Washington, Baltimore, and Philadelphia westward with Harrisburg, Pittsburgh, Cumberland, Wheeling, via Columbus to Cincinnati, Louisville, Nashville, etc., to N. Orleans, and from Louisville to St. Louis, and from Columbus to Cleveland.

He is authorized to form a company (and will proceed to do immediately) to be known

as "The Western Telegraph Company," for the purpose of raising the necessary funds to connect the above-named places, and all intermediate points of sufficient importance to require an office. The cost of construction, including batteries, and all things necessary for working Morse's Electro Magnetic Telegraph, is not to exceed \$125 per mile for one wire, and \$35 per mile for each additional wire. The whole distance will fall short of two thousand miles, and consequently the entire cost will be less than \$250,000—a very small sum for such an important work.

A line of telegraph is already built and in operation from Philadelphia to Pittsburg, and provision is made in my articles of agreement with the patentees to allow the stockholders, by subscribing their names to the agreement of the Western Telegraph company to become stockholders in it, upon the same terms and conditions of original subscribers. The patentees contend (and I have no doubt correctly) that the line from Pittsburg to Philadelphia has been built in violation of their rights, and without their authority; and hence it will be treated by them, and those acting under their legal authority, as spurious, unless the stockholders become absorbed in the Western Telegraph company, and till they do become so absorbed.

My agreement with the patentees stipulates for the completion of the contemplated work within two years from the 1st of January, 1847; but if no unforeseen obstacles should present themselves, it is my intention to have it done at a much earlier day.

As soon as a proper organization is made, persons, duly authorized to act, will visit the different cities and towns upon the proposed lines, to solicit their friendly co-operation in raising a share of the necessary funds. Pittsburg, New Orleans and St. Louis being three of the most important points, and most deeply interested, will not, it is presumed, be a whit behind Cincinnati in the substantial promotion of this great work. *

The interruptions on the eastern lines will be avoided on this line, by using iron wire instead of copper, and of three times the size, and nine times the strength, and by using great care in the insulation.

In fact, the frail copper wire used upon the eastern lines when first constructed, is now being replaced by a substantial iron cord, or wire of sufficient strength to resist the storms, and especially the ice, that have heretofore broken it to pieces, and interrupted communication.

The productiveness of capital invested in important lines of telegraph, and their great public utility, are now no longer debatable questions; and it will be but a brief period before communications will pass with the speed of lightning over and through the whole extent of our vast territory, from north to south, from east to west, cementing more and more strongly the bonds of union, and holding aloft, with firmer nerves and stronger grip, the star spangled banner, the glory of American freemen, and the admiration of millions throughout the world.

ELIJAH CASE, JR.

New York Railroad Statistics.

As we have not yet received the Comptroller's report, we are indebted to the *Albany Evening Journal* for the following synopsis of the railroad statistics of New York State, for the last year.

MOHAWK AND HUDSON RAILROAD.

Length of road in operation, 16 miles and 4837 ft.
Cost of construction \$1,461,152 91
Paid for rebuilding 2 engines and 34 freight cars 11,814 04

\$1,472,966 95

Interest which accrued in 1846 \$25,049 69
Do. do. in 1845 3,094 02

\$28,143 71

Repairing and operating the road in 1846,

\$41,776 84

Income from 174,653 passengers \$92,194 67
" " Local and western freight 18,321 59
" " Mail contract 1,950 09
" " Rents 1,390 82

\$113,857 08

Rec'd from the sale of houses, land and materials \$8,978 64
Received from bonds of 1845. 3,000 00

\$11,978 64

Number of locomotives 6.

UTICA AND SCHENECTADY RAILROAD.

Length of road 78 miles. Cost of construction \$2,189,505 10

Income from passengers \$347,535 51
" " Freight 65,296 57
" " United States mail 5,850 00
" " Other sources 9,713 90

\$428,395 98

Expenses of running the road \$167,820 82
" for engines, constructing and grading 75,609 70

Amount of dividends 160,000 00

Total expenses and dividends \$403,430 52
Number of locomotive engines 15.

SYRACUSE AND UTICA RAILROAD.

Length of road 53 miles.
Cost of construction \$1,128,940 24
" " less depreciated prop'ty. 30,000 00

\$1,098,940 24

Receipts from 103,298 $\frac{1}{2}$ thro' pass'gers. 207,597 00
" 51,481 way passengers. 22,111 56
" transportation of freight. 19,623 50
" transportation U. S. M. 6,289 75
" miscel. sources 2,015 41

\$357,637 22

Expenses for repairing, operating and running the road, including amount paid for debt and new cars 124,932 48
Amount paid for new trench 38,241 12
do. do. permanent fixtures 8,017 56

\$171,191 19

Expenses on account of construction for land 12,112 73
Dividends paid February 15 40,000 00
Dividends paid August 15 40,000 00

Number of locomotives 9.

AUBURN AND SYRACUSE RAILROAD.

Length of road 26 miles.
Cost of construction \$676,239 02
Expended in construction in 1846 3,947 50
Interest 105,037 38

\$784,223 90

Income from 105,889 $\frac{1}{2}$ passengers 98,051 71
do. do. freight 16,886 32
do. do. United States mail 4,050 00
do. do. Incidental 50 00

\$119,038 93

Expense of repairing and running the road 46,164 09
Amount of dividends 32,000 00

AUBURN AND ROCHESTER RAILROAD.

Length of road, 78 miles.
Cost of construction to Jan. 1846 \$1,832,045 18
Cost of expenditures in 1840 32,999 28
" " 1845 1,865,044 46
Receipts from 62,218 thro' pass'grs 169,006 98
Receipts from 80,037 way 84,066 23
Receipts from freight 20,201 76
Receipts from U. S. mail and other sources 16,895 58

\$290,170 55

Expenses for repairs and running the road 110,352 24
Dividends paid 1st February, 1846 \$56,000 00
Dividends paid 1st August, 1846 56,000 00

\$112,000 00

TONAWANDA RAILROAD.

Length of road, 43 $\frac{1}{4}$ miles.
Cost of construction 751,053 28
Expended in " 1846 2,501 91

\$753,555 19

Receipts from 92,387 $\frac{1}{2}$ passengers 111,583 09
do. do. freight 23,779 97
do. do. U. S. mail 6,347 25
do. do. storage 2,107 89

\$143,818 20

Receipts from sinking fund and N. York Life Insurance and Trust co. 5,333 33
Receipts from the sale of iron, etc 3,161 65
do. do. cars sold 300 00
do. do. interest received 447 91

\$9,242 89

Expense of construction, repairs and running the road 89,534 44

ATTICA AND BUFFALO RAILROAD.

Length of road, 31 miles 26 chains.
Length of branch road about 80 chains.
Cost of construction \$306,704 52
Cost of engine and cars 48,104 33

\$354,808 85

Receipts from 87,633 72,405 55
do. do. freight 8,185 64
do. do. U. S. mail 4,800 00
do. do. sale of stock 877 50
do. do. various sources 225 37

\$86,494 06

Expense of construction in 1846 3,446 63
do. engines and cars 9,711 80
do. running the road 33,564 98

\$46,723 41

Dividends, February 1, 1846 13,546 00
Dividends, August 1, 1846 16,950 00

\$30,496 00

SCHENECTADY AND TROY RAILROAD.

Length of road, 20 $\frac{1}{2}$ miles.
Cost of construction to 1st Jan. 1846 \$641,540 02
Expended for do. in 1846 2,007 54

\$643,547 56

Receipts for 57,793 thro' passengers 27,997 96
do. do. 4,996 way passengers 1,499 19
do. do. freight 6,720 88
do. do. mail and other sources 570 00

\$36,788 03

Expenses of running the road 31,545 30
No dividends

ALBANY AND WEST STOCKBRIDGE RAILROAD.

Length of road in operation, 38 $\frac{1}{4}$ miles.
Cost of construction \$1,777,019 57
Number of thro' passengers 76,412
do. way passengers 27,914 $\frac{1}{2}$

\$17,500 62

Expense of road, including ferry boat and dock in the city of Albany, paid by lessees There is no income. The lessees pay the interest on the bonds of the city of Albany, which am't

\$1,000, as rent.

RENSELEAER AND SARATOGA RAILROAD.

Length of road, 26 miles.
Cost of construction \$475,801 10
Receipts from 18,477 thro' passengers 18,856 63
do. from 33,920 way passengers 13,510 03
do. from freight 8,183 61
do. from U. S. mail 524 55
do. from bridge toll 9,210 85
do. from other sources 248 40

\$50,534 07

Expenses for repairing and running the road 38,639 48
Expenses toll bridge 2,829 75
do. dividends 9,000 00

\$50,469 23

Number of locomotive engines, 2.

CAYUGA AND SUSQUEHANNA RAILROAD.

Rec'ts of passengers and transportation \$17,157 29
Expenses of running the road 6,801 44
do. repairs on road 5,562 54
do. repairs of cars, etc 2,193 58

\$14,557 56

SARATOGA AND SCHENECTADY RAILROAD.

Length of road, 22 miles.
Cost of construction \$300,000 00
Receipts from 17,150 through passengers 18,699 99
do. from 18,827 way passengers 8,750 01
do. from freight 4,668 74

\$33,118 74

Expenses of repairing and running the road 26,358 41
Dividends in January, 1846 9,000 00
do. in December, 1846 9,000 00

\$44,358 41

NEW YORK AND ERIE RAILROAD.

The receipts of the company from all sources \$1,160,734 68
Expenses of construction, repairs and running the road for the past year 917,635 51

Balance unexpended on the 1st Jan. \$343,099 17

TABULAR STATEMENT.

Number of miles in operation, 62.
Cost of construction (53 miles including pier) 2,084,408 25
Expended on 9 miles previous to 1846. 183,927 32
Expenditure on construction in 1846 292,682 69

\$2,561,018 55

Expended for repairing and running the road and ferry expenses 123,173 97

Receipts from through passengers 19,637 87

do. from way passengers 45,116 86

do. from freight and U. S. mail 120,761 75

\$185,516 48

Number of locomotives 9.

Fairly Begun.

It is with more than ordinary satisfaction that we announce to our readers to-day, that the subscription of the City of Philadelphia to the CENTRAL RAILROAD is completed—more than the required three millions of stock having been taken in this city alone, exclusive of aid from the interior. The first instalment on this subscription was on Tuesday last paid in, says the Pennsylvanian, and certified by the commissioners. This gratifying fact indicates not only a united public opinion on this subject, in this city, and a generous disposition to urge forward the great work alluded to; but it proves also that the success of the Central railroad is placed beyond all doubt."

Cornish Steam Engines.—The number of pumping engines reported for the month of Dec. is 24—the quantity of coals consumed being 1471 tons, lifting in the aggregate, 14,000,000 tons of water, 10 fathoms high—the average duty of the whole is, therefore, 53,000,000 lbs. lifted one foot high by the consumption of a bushel of coal.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

Published by D. K. MINOR, 105 Chestnut St., Philadelphia.

Saturday, February 27, 1847.

Mr. Roebling's Lectures.

In our last number we commenced the publication of Mr. Roebling's Lectures, originally written for the *Railroad Journal*—and delivered before the "Board of Trade" at Pittsburg—a short time since. We continue the article to-day—and in our next shall conclude the subject.

It needs no particular notice from us, for the name of the writer is sufficient commendation for its earnest perusal; yet we cannot allow this opportunity to pass, without remarking that the views of Mr. Roebling, in relation to this great iron chain of inter-communication between *Philadelphia* and *St. Louis*, meet our heartiest approbation—and we shall indeed be happy to know that men of means may be found (as we believe they will be, most readily,) who will step forward and further this important and promising undertaking.

The "Lectures" are written in a terse and excellent style, and the argument is convincing. We would merely add, that we feel under obligations to the able author for his communication—and we commend the article to the attentive consideration of the readers of the *Journal*, and especially to those residing in *Philadelphia*, *Pittsburg* and *St. Louis*.

We have thought proper to print a large edition of the entire article in pamphlet form—which will be forwarded to every section of the country. The project is an immense one, but the plan is perfectly feasible, and would, we have no doubt, if consummated, prove a most profitable undertaking.

A few Thoughts on Western Commerce.

De Bow—in the last number of his "Commercial Review, for the South and West,"—has a well written, and very logical article, by a contributor, upon the contest which is now going on (and which must be one of the highest future importance,) between the East and West, for the traffic of the Mississippi Valley. We have perused this article with attention, and but for its great length, we should be happy to place it, entire, before our readers. The ground taken by the writer is, that the great and growing commerce of the Western country has now become of such vast importance, that a fierce rivalry has sprung up, and is destined to be carried on with determined vigor, whether the trade of that section shall be thrown into New Orleans, or given to the Atlantic cities. Whether the "Crescent City" shall continue to receive the benefits of the traffic of the Great West, by way of the Mississippi River, or whether Boston, New York, Philadelphia, and Baltimore, shall monopolize it?

The activity now prevailing in the Western States, but more especially in Pennsylvania, in reference to railroads leading westward, it seems, has aroused

the jealousy of our brethren in New Orleans—and the question may be very appropriately asked—if the contest for this traffic is not to be decided in after years, "why all this vast expenditure of money in building railroads, digging canals, etc." This is the point to be decided. The mightiest energies of the East and North-East must be exerted to protect and *maintain* what they now hold by reason of their exertions in the early history of railroads and canals. The position held towards the West, by the States of Pennsylvania, New York, and Massachusetts, by their existing means of communication, secures to those States the *preference*, at this time; and if the contemplated internal improvements of Pennsylvania are carried out successfully, there can be *no* competition with *her* interests (in a general view) so far as the trade of Ohio, and the country bordering on the lower Lakes, are concerned.

The writer of the article to which we have thus briefly alluded, is desirous of impressing the fact upon the minds of the citizens of New Orleans, that perishable property—as flour, corn, wheat, etc., suffers very materially, after shipment upon the Mississippi River, from injuries to which all produce is liable after reaching the New Orleans warehouses—from expenses incurred in sending it forward from the West to, or by way of New Orleans, when intended for shipment thence, abroad or coastwise—from the risks of the climate—from want of conveniences for storage—from injury occasioned by the muddy streets and docks—and from the risks of snags, etc., upon the river, the increased rates of insurance consequent, etc., etc. All these disadvantages are noted under separate heads—and an appeal is made to the community to come forward and devise means to overcome all these difficulties—and for why? Because there is an evident determination to establish a railroad communication direct from the Ohio river to the Atlantic, and a fair prospect of a continuous chain of road, from St. Louis (or some point lower, even, on the river,) to the Atlantic coast!

New Orleans is a great city; but the immense trade which has been carried on between the East and the West—*via* New Orleans, must, in the natural progress of events, become a matter too great to be turned away from channels (though "artificial") which in these days of internal improvements, offer so many powerful and weighty advantages, as those which present themselves in the competition we have spoken of. Pennsylvania, by means of her CENTRAL RAILROAD—is destined, we believe, to be benefited more largely than any other of the Eastern or Middle States, in time to come—by the traffic which must flow *eastward*, and which is now, and which for years has been carried on, by way of New Orleans—to the East. Let her citizens look well to this—and bear in mind that the efforts of the Empire State will be brought to bear against her, that the capitalists of the South are jealous of her exertions—and that it depends on *herself* to say whether or not *her* people shall avail of the enormous benefits which are now flowing into other channels from her lack of means to receive them! We shall turn to this subject again.

Railroad Reports.

We have already given place in the columns of the *Journal* to the Annual Reports of several Roads and Companies for the past year—and a few are yet in hand, which we shall publish at an early day. The usual Annual Reports of some of the great public works of the country have not yet been received by us, and we conclude that such have not yet made their reports for the year past. We shall be happy

to see them all among our files—as soon as may be—and parties interested will please take the hint.

English Iron Trade.

By the arrival of the *CAMBRIA* steamer, we are in receipt of our London and Liverpool files—from which we gather that the *Iron Trade* generally remains in about the same state as at last advices.—The market, if any change was perceptible, was not quite so brisk as last accounts reported—and for certain descriptions of pig, slightly reduced rates are quoted. Buyers have purchased freely, however, and the prices of manufactured iron continue fully as high as a month ago. *Wilmer & Smith* say that in *Liverpool*, large quantities of iron have been sold during the last month, principally for railway and other public purposes; the consumption among the machine makers in the cotton and woollen districts has been much diminished—these trades being flat. The exportation of iron has been scarcely an average, considering the amount of pressure on the money market—the claims of Ireland for relief, which must be granted on an extensive scale, and other depressing influences. The prices of iron are well supported, and we have no reason to expect any material reduction, as the makers are still well employed, and pig iron is scarce. The following are the present rates in *Liverpool*: No. 1 Scotch pig, £4 5; Merchant bar, £ 10; best Rolled, £10 15; Hoop, £11 5; Sheet, £12.

In the *London* market, the transactions in iron are on a more restricted scale, the tightness of the money market having an unfavorable influence on prices of all descriptions. In Scotch pig only a small business is reported at a further decline of 1s. to 1s 6d on last week's rates, No. 1 selling at 72s 6d to 73s, and mixed numbers 71s to 72s cash; these rates are, however, quite nominal, and it is more easy to buy than sell. Welsh and Staffordshire are quiet; last rates are barely maintained. Rails are dull, and now not more than £9 to £9 15s cash can be obtained. In foreign iron no business reported. Speier again advanced 20s, but sales have been stopped owing to the small quantity here and the high rates asked; some business is reported at £22 to £22 5s, and for arrival at about £21 5s. Copper is very scarce and firm, but as yet no prices are fixed by the smelters. Lead and steel remain nominally the same. In the value of British tin no change has taken place, and it is very scarce, some small lots of Straits are reported this week at 98s to 98 6d.—In other metals no change, and but little business transacted.

Locomotive Manufactory.

We take pleasure in calling the attention of those interested in railroad matters, to the excellent locomotive building establishment of Messrs. HINCKLEY & DRURY, BOSTON.

It is now about six years since they commenced building Locomotive Engines, at which time the six wheel engine, with *outside connexions*, (weighing about ten tons) was considered sufficient for the passenger business upon the New England roads.

In consequence of the regular increase of business on these roads, from that time to this, they have been called upon for engines of an increased capacity, equal to the calls of business; and now have orders for passenger engines, weighing twenty-two tons, called the "eight wheel engine"—*inside connexions*, crank axle, with four driving wheels, and a truck; which are coming into general use in that part of the country.

There were strong objections to the crank axles, when they were first brought into use, from the fre-

quent failure of the cranks; but since making some improvements, such as adding another set of drivers, and heavier crank axles, they are now considered by the managers of our northern roads, the best kind of machine in use, for the passenger business; as they can be run at a high speed, without the great lateral motion of those of the outside connexion, and consequently with less injury to the track.

The driving wheels used by Messrs. Hinckley & Drury, are nothing less than five feet in diameter for passenger engines, and they have gone as high as six feet. We learn that this house has now orders for six months to come, for at least *one machine a week*, and for none of less weight than *sixteen tons*.

The manufacturers do not pretend that their machines are superior to those manufactured elsewhere, but being in the neighborhood where those machines are used, the various Superintendents are enabled to call and dictate how they choose to have their work done—and we are happy to know that perfect satisfaction has thus far been given—where their locomotives have had a trial. We commend the house of Hinckley & Drury to the general notice of our readers.

Railroad Matters.

A Correspondent of Hunt's Merchants' Magazine, writes as follows:—"In your number for January, is a statement of the quantity of railroad iron now made in the United States, taken from the Pottsville Miners' Journal, in which it is stated, that the first railroad iron made in this country was in 1844, but does not mention by whom. As this is a very prominent article in our manufactures, it is desirable the date of its commencement should be accurately known. I believe the first made here, was by the Great Western Iron Company, on the Allegheny river, about 40 miles above Pittsburg; of which company, Mr. Knowles Taylor, of N. York, was the president, and principal projector. In January, 1842, this company had 200 tons railroad iron ready for delivery at Cincinnati, for a railroad in Indiana, at \$30 per ton, at which price they lost money. This company is now called the Brady's Bend Iron Works, and is entitled to the credit of making the first railroad iron ever made in the U. States."

We are happy to be informed, says the Herald, that the subscriptions to the Hudson River Railroad now reaches upwards of \$2,000,000. Over \$90,000 were obtained Friday. The chances of this great work are now favorable, and a little more assistance from our citizens will secure its construction.

The citizens of Danvers, in town meeting, 125 yeas to 3 nays, have passed resolutions approving of the project of a railroad from that town, through Lynn and Malden to Boston.

The Danvers Courier states that the petitioners in behalf of a railroad from Salem, through Danvers and South Reading to Lowell, have secured the services of J. W. Proctor, Esq., of that town, and E. H. Derby, Esq., of Boston, as their counsel.

We learn that the Hon. George Moffat having declined the office of president of the St. Lawrence and Atlantic railroad company on account of the pressure of private business, the directors proceeded on the 23d ult. to elect the Hon. A. N. Morin, president.

The net income of the Connecticut river railroad, extending from Springfield to Greenfield, (capital \$1,000,000) during the year 1846, was \$36,494 56. The cost of operating the road has not exceeded 35 cents per mile.

The Western Railroad Directors have recently

created 1,500 new shares, under the act of March, 1845, which are offered the stockholders at par, on the 4th of March next, in the proportion of one new share to every 20 of the old. These shares are entitled to the July dividend. This addition makes the whole number of shares 35,500 at the present time. The directors have also petitioned the legislature for an increased capital of about one million and a half of dollars, to be created from time to time, as the increased business of the road may require it; making the whole future capital ten millions. Probably none of it will be created until the property is an eight per cent. stock, which it bids fair to be in the present year—the increase of receipts in the past nine weeks having been \$33,133 92.

The receipts of the Boston and Worcester road, says the Advertiser, from passengers during the past year, amounted to \$279,793, and those from transportation of merchandise, to \$260,165, making a total of the two items of \$539,958. The dividends of 4 per cent. each were paid, leaving a surplus of \$29,725 80. The number of passengers transported was 470,318; and the quantity of merchandise 179,325 tons.

The citizens of Mount Morris are taking vigorous measures for the construction of a plank road to Angelica. The Livingston (N. Y.) Whig says, the citizens of that place are ready to subscribe \$15,000, and those of Angelica an equal amount. The consummation of such an enterprize must prove of vast benefit to the village of Mount Morris. The great increase of trade it would bring, would be an ample return for the investment.

It is stated in a Dublin paper that a railroad laborer, near Armaugh, Ireland, lately won a wager of \$10 for stowing away, in "nature's bread basket," six four-penny loaves of bread, three pounds of fat bacon, and drinking all the tea from 3½ ounces of the China herb. This was the quantum appointed for him to eat at one meal; but before the gourmand was satisfied he asked for another eight-penny loaf, and demolished it, together with an additional pound and a half of bacon.

The Norwich and Worcester railroad company have contracted for a large steamer, to take the place of the ill-starred Atlantic.

Those who take ordinary care of themselves and are prudent, says an exchange, it is proved by the calculation of experience in England, stand only one chance out of half a million of meeting with any injury upon a railroad.

St. Lawrence and Atlantic Railroad.

A late report made to this company, at a meeting held in Montreal, gives the most cheering accounts of the prospects of this road.

The Canadian company has entered upon its part of the work with great spirit, and apparently with most reasonable expectation of early profitable results.

They have placed forty-five miles of the road under contract, and the work of grading was commenced more than a month ago.

Mr. Galt has again gone to England, where, among other commissions, he is to contract for the rails, and the expectation is expressed, that so much of the road will be opened in the course of next year.

It is said that the prospects of the route improve on both sides of the line, as the surveys are perfected.

The encouraging fact will be observed, that responsible contractors, on the Canadian road, have agreed to take twenty-five per cent. of their contracts in the stock of the road.

Great Central Railroad from Philadelphia to St. Louis.

BY JOHN A. ROEBLING, C. E.

Written for the Railroad Journal, and read before the Board of Trade of Pittsburg.

(Continued from page 125.)

The history of railways has already furnished a sufficient number of facts, and of reliable data, for the establishment of principles, upon which the success of railroad transportation may be safely predicated.

Railroads, like all other great mechanical structures, which are calculated for extensive operations, are necessarily very expensive in their first construction. They are to be operated as other *time and labor-saving* machines are. To overcome those resistances which present themselves to the movement of heavy masses, a costly and complicated machinery is required, and to be constructed very strong and durable. Economy of working grows out of the perfection of the machinery, and other means applied. The more perfect the latter are, the better the operations will succeed, and the more can be produced. But from this follows that the *profitable* success of mechanical operations will greatly depend upon the amount of work done. A cotton mill, for instance, with its expensive machinery, will not pay for itself when only worked four hours per day; but it may prove a valuable investment when operated twelve hours, or still better, without any interruption. The same applies to a railroad.

In order to show the rapid reduction of expense of transportation, with the increase of tonnage, I have calculated the following table, which will be found nearly correct when applied to the best American railroad. The first cost of a first rate double track road is assumed at \$50,000 per mile. The tonnage includes passenger trains as freight trains, locomotives, cars and all. *

Gross tonnage.	Maintenance of road per mile per annum for total gr. tonnage.	Charge per gross ton per mile.			
		6 per cent. inter. on a capital of \$60,000 pr. mile.	Maintenance of road.	Working expenses.	Total charge.
40,000	200	.75	.5	.5	.85
60,000	300	1.0	.383	.5	5.883
80,000	260	1.75	.325	.5	4.575
100,000	290	2.0	.29	.5	3.79
150,000	365	2.0	.343	.5	2.743
200,000	440	1.5	.22	.5	2.23
500,000	890	0.6	.178	.5	1.278
1,000,000	1640	0.3	.164	.5	.964
2,000,000	3140	0.15	.157	.5	.807

This table shows, conclusively, how important it is to do a large business. We see that with a business of but 40,000 gross tons annually, we have to charge 8½ cts. per gross ton per mile, to be enabled to declare a dividend of 6 per cent. upon the capital invested. But with a business of 2,000,000 gross tons, we need only charge .807 cents per ton per mile, in order to make the same dividend. The Reading railroad is the only road in the world, the gross tonnage of which approaches 2,000,000 a year. In applying the above table to this road, we have to double the charge of interest, as the original cost of this road, including outfit, depots and all, amounts to \$100,000 per mile. This gives the total charge per ton per mile .957 cents. And as the proportion of the gross tonnage to the net tonnage on that road is nearly as 3 : 2, we get the expense of transportation for each ton net 1.281 cents per mile. With a business therefore of 1,333,000 tons of coal per annum, and allowing 6 per cent. interest upon the capital expended, the Reading company should be able to transport coal from Pottsville to Philadel-

phia, 100 miles, at the rate of \$1 21 per ton. Owing to the favorable grade of that road, which is descending in the direction of the traffic, the working expenses do not amount to 4 cent per gross ton per mile.* The working expenses of one ton net of goods on the Belgian railways, are stated at 9 cents per mile. I have referred to the Reading railroad only for the sake of illustration.

On examination of the above table, we arrive at another important conclusion, viz: that to accommodate a certain amount of business, more roads than one will be injurious to the public. Two companies, in place of reducing charges, have to increase them, in order to make up for the reduction of tonnage.

The true interest of Pittsburg is, to have but one road in place of two to the seaboard. One company can afford to work to the advantage of the community at large, by making a good road in the first instance, keeping it and its machinery in good repair, running more numerous trains, more regular and faster, and all this at a lower rate of charges. Two companies would have to divide the revenue, and would therefore have to charge double for the same accommodation. Competition may become the ruin as well as the life of business. The rivalry of the different leading routes through the neighboring States will be quite sufficient to preserve us against the abuses of an apparent monopoly. It will be admitted, by and bye, that the Connellsburg road, if made, will prove a drawback, instead of a benefit, to the commerce and general interests of the city of Pittsburg. With the support of the Great Central road alone, we shall be able to monopolize the western trade, in competition to the other great rival lines, by reducing charges sufficiently low. With two roads, however, one to Philadelphia, the other to Baltimore, and a divided business, our ability to compete will be greatly lessened.

That road will secure most business, which first shall connect with the improvements of the State of Ohio, and render them tributary. To stop at Pittsburg would therefore be a half measure. Early measures should be taken to secure a continuation to Columbus. Before I however continue my remarks, upon the comparative prospects of the Great Central, and of the Baltimore and Ohio railroad, I will refer to the Great Virginia route, projected from Richmond to Guyandotte.

This route, when constructed, will form the most direct communication between the Atlantic and the west. Both in regard to grades as well as distances this road will be able to compete successfully with any of the northern lines for a considerable portion of the southwestern trade. The charter granted to the company of the Richmond and Ohio railroad, by the Virginia legislature last winter, may be pronounced one of the most liberal and favorable in its provisions, ever granted to any company. Indeed it appears, that Virginia regards the construction of this road, as of vital importance to the future prosperity of that State, and has accordingly held out great inducements to capitalists to embark in that enterprise. This road will form the most direct route to Cincinnati, and if continued from Richmond to Norfolk, may raise the latter place to one of the first sea ports on the Atlantic coast. The fact is, that the Richmond and Ohio road will prove the most formidable rival of the Baltimore and Ohio, as it will intercept all the trade of the Ohio river below Parkersburg, and will not allow it to reach the termination of the Baltimore line. Norfolk be-

ing located at the mouth of the Chesapeake bay, would hold out greater inducements than Baltimore as a place for shipping.

Great as the advantages of the Richmond, and of the Baltimore routes are, they cannot divert much of the traffic, which may be said to belong legitimately to the Great Central road, provided the latter be wisely directed.

Philadelphia possesses, as the terminus of the Great Central, superior advantages over Baltimore, as well as Richmond:

1. As a greater focus of capital.
2. As a greater manufacturing centre.
3. As a greater commercial point.
4. As a more populous place.
5. On account of its closer proximity to New York, the greatest seaport on the Atlantic.

The future success of the Central railroad, however, may be predicated upon the fact, that it will form the main stem of an immense system of railroads, canals, rivers and common roads, most of which are already in successful operation. The whole distance of railway from Philadelphia to St. Louis will not exceed 1000 miles. Now let us commence at the eastern terminus, and enumerate the extent of all the improvements which will be rendered tributary, and may be considered branches of the main trunk line.

	Miles.
Length of trunk line itself.....	1000
Harrisburg and Chambersburg railroad.....	52
Harrisburg, York and Baltimore railroad.....	110
Pittsburg branches to Cleveland and Erie.....	230
Erie Extension canal, Cross Cut, Sandy and Beaver.....	260
Ohio canal and branches.....	334
Muskingum slackwater—about.....	80
Columbus and Cleveland railroad.....	120
Cincinnati and Sandusky.....	225
Miami canal.....	190
Whitewater canal.....	76
Madison railroad.....	85
Wabash canal and river—say.....	450
Railroads contemplated in Illinois—about.....	260
An aggregate extent of nearly 3500 miles of active lines. The above distances are to be considered only as approximate.	

A French engineer has lately recommended to his government a system of trunk and branch lines, to be adopted in place of independent lines; the same views appear to have been sustained in parliament, during the late discussions on the merits of new lines, proposed. The remarks lately made in relation to this subject by the Railway Chronicle, (See American Railroad Journal, No. 533,) are so directly bearing upon the question of the leading thoroughfares of the United States, that the attentive perusal of this article is much to be recommended.

To insure that great amount of traffic, which is necessary for the success of the Great Central road, the location of its main trunk line should be undeviating and direct in its general course; the most important towns should be touched, and its terminus should be located at the most flourishing city of the west. In proportion as facilities of travel and transportation are offered by this trunk line, will the business of the adjacent country be attracted. All interruptions and delay should be avoided. Goods shipped on board of cars at St. Louis, must be sent through without any transhipment, and vice versa. The better the above conditions are fulfilled, the more expeditious and cheaper business can be conducted. A certain amount of business is necessary to cover general expenses, as the interest upon the capital, general management, principal maintenance of road, etc., etc. Any additional traffic beyond this,

will swell the receipts of the road, without adding proportionally to its expenses.

It is only by means of a common trunk line, and numerous branches, or lateral lines of transport, that large trains can be collected, and that trains can be run more numerous on the main line. A through train of passengers, for instance, starts at St. Louis towards Philadelphia, running 25 miles per hour, and allowed to reach the latter place within 48 hours, including all stoppages. This train will stop, collect and distribute passengers, at Vandalia, Terre Haute, Indianapolis, Richmond, Springfield, Columbus, Salem, Steubenville, Pittsburg, Harrisburg and Lancaster. Before the train reaches Philadelphia, it will have done an immense way business, and become much enlarged. Two such trains daily, each way, will accommodate 300,000 passengers annually. Other trains may be run for the accommodation of the local travel exclusively. The business on the branch lines must be so arranged, as to correspond with that on the main line.

By applying some of the principles developed by Mr. Ellet in his *laws of trade*, and decreasing the charges on the main line, in a certain ratio, as the distance increases the attractive power of this road, by means of its numerous branch lines, can be much increased. I will, for instance, mention an item of transportation which can be made to contribute much to the receipts of this road, and would, if fairly introduced, prove of vast benefit to the east as well as to the west. Fat cattle, hogs, and sheep, can be advantageously transported from the rich prairies and cornfields of Illinois, Indiana and Ohio, by railway to Philadelphia, without losing any weight, and at a profitable rate. A fat steer, weighing 1000 pounds, is now worth in Illinois, \$10, its transportation will cost at the rate of 2 cents per ton per mile, over say 900 miles of road \$9, making its value, including attendance and fodder, say \$90 in Philadelphia, where it will sell at the rate of \$30 to \$40. The immense droves of cattle, hogs and sheep, which are now annually driven from the west to the east, at a great loss of weight, and expense of time and money, may all be conducted on this railway. Here will be, indeed, a great national saving effected, and nobody injured. There is no doubt, if this traffic was fairly established, the exportation of meat to Europe, during the fall and winter season, could be carried on very profitably.

The transportation of fat cattle, on one of the Hungarian railways, for the supply of the city of Vienna, forms one of the principal sources of revenue of that road. The grand object of railways is to facilitate commerce and intercourse. It is, therefore, the duty, as well as the interest, of a railroad company, to keep this great aim constantly in view. It is plain that such magnificent results as the direct transportation of the great staples of the west, over a thousand miles of railway, cannot be attained on a poorly located and constructed railroad, or with an insufficient stock of machinery, or by subjecting it to the delay and expense of transhipment and agencies; nor can it be accomplished by taxing such an immense traffic with all the expenses which would grow out of an increase of distance, caused by a circuitous location through every village of the country. Just in proportion as the facilities of transportation to the far west will be increased, will goods be sent and received by Philadelphia, Pittsburg, the whole State of Pennsylvania, and the western States.

Instead of constructing a number of independent lines to Erie, Cleveland, Sandusky, Toledo, Chicago, Cincinnati, Indianapolis and St. Louis, the ag-

* No allowance made for the expense of running the cars back empty.

ggregate distances of which would exceed 3000 miles, and of which none could attract a sufficient amount of business to maintain a first rate establishment; it is proposed to construct *one grand trunk line to St. Louis*, and make this a road of first rate capacity, capable of conducting the whole business of the west at the lowest rate of charges, and with the least delay. The formation and management of the branch lines may be left to the different sections of country where they are wanted. A controlling power will be exercised over the branches by modifying the charges on the main line, in proportion to those on the side lines.

At the risk of another repetition, I will again review some of the most prominent principles which should be observed when projecting a great system of railways over an extensive country, and then conclude my remarks on the capability of the Great Central road to compete successfully with its northern and southern rivals.

"No two roads shall be made where one can accommodate the business.

"The whole country should be divided into railway systems, with main trunk lines forming direct communication between the most important commercial towns, and lateral branches extending thro' the adjacent country, also connecting the main trunk lines.

"The main lines should be so located as to interfere as little as possible with each other.

"The main part of the travel should be accommodated by passing through the principal centres of population.

"The freight business should be attracted from the country itself, by branch lines and intersecting improvements which will discharge directly and save transhipment and commission.

"The character of the road, as to lines, grades, and superstructure, should be adapted to the magnitude of the trade; this trade should be estimated with a due regard to the future advance of population, opening of new resources, and greater extension of business generally, in consequence of the increased facilities of transportation offered.

"The expense of construction may be increased in proportion as the annual charges of transportation, etc., are thereby diminished, with due allowance for the increase of business, which may reasonably be expected, in consequence of the greater perfection and capacity of the road."

If we proceed in the location of the Great Central road, according to these principles, and secure a connection with the west, before it can be done by our rivals, we shall be certain of success. We should at once declare our intention to extend our line to St. Louis, and carry out our design vigorously. None of the neighboring routes will thereby be excluded from the west; but it would be folly to carry two main lines into the same district, thereby destroying each other, and injuring the whole community. When the Baltimore and Ohio company projected a branch to Pittsburg and the main line to Wheeling, their object was to pursue a similar route through the west, which is now here proposed. Their plan, however, was formed under the impression that a railroad through Pennsylvania was impracticable, and could never be made. But the aspect of the case is now totally changed. Pennsylvania has discovered a route as good as the Baltimore and Ohio line, and will construct a road from Philadelphia to Pittsburg without any further delay, and will have it completed long before the Baltimore and Ohio can reach the Ohio river. This will necessarily change the whole policy of the Bal-

timore and Ohio company. Will this company be bold enough to run a race for life and death, with her more powerful neighbor of the Great Central railroad? Certainly not! If the stockholders of the Baltimore and Ohio railroad are led by wise counsel, they will examine their true position, and consider well the chances which are left to them, between the Great Central route in the north, and the Richmond and Ohio in the south. Their true interest will be to pursue a course as central as possible between the two, and strike the Ohio near the mouth of the Little Kanawha, or the Muskingum. There they will be certain of securing a portion of the Ohio trade. By extending their road to Columbus, they will then tap the business of the Great Central road; with what success, will entirely depend upon the organization of the latter.

That company will succeed best which will provide the greatest facilities of transportation, and have the control of the main stem to St. Louis, and of its branches. The merchant of the west will soon have a choice of five great routes, all leading to the Atlantic. They may choose to go by the Richmond and Ohio, Baltimore and Ohio, Great Central, New York and Erie, or Boston and Michigan line.

The Virginia route is not contemplated to be prosecuted further west than Guyandot. The Ohio river will then form its continuation to Cincinnati. It cannot be denied, that the prospects of this route are very flattering. A railroad from Louisville to Guyandot, by way of Frankford and Lexington, would secure to their line a large portion of the Kentucky trade. Some of the south western travel may also take the Virginia route; if the Great Central road, however, is well managed, it will offer much greater facilities to Philadelphia, as well as to New York and Boston. Excepting those passengers from the west, who are called on business to Baltimore, the great bulk of travel which passes through St. Louis and Cincinnati, will prefer the great Central route for Philadelphia, as well as for New York and Boston, as the nearest, most expeditious, and cheapest.

It is true that the Baltimore and Ohio, when connecting with the Great Central at Columbus, or some other eligible point, will have an opportunity of diverting a portion of the travel; but this can only be accomplished by offering greater facilities, viz: greater speed and comfort at a lower rate of charges. But how will the Baltimore and Ohio, with an inferior road, and much smaller business, be able to sustain such competition, when the additional distance and fare from Baltimore to Philadelphia is against that route, for all the travel north of Baltimore?

The Baltimore and Ohio railroad company, when reflecting on the position of their road, situated as it will be, between two powerful rival lines, will discover that their safety depends upon the creation of an independent business, rather than uncertain result of a hazardous competition. Two things are certain, there is not scope enough of country to continue the main stem of the Baltimore and Ohio, as a great trunk line west, without interfering greatly with the extensive operations of the Great Central road. Nor will that company possess sufficient influence and capital to enable it to undertake, successfully, a struggle with her more powerful rival.

It may be repeated again, which ever line shall enjoy the control of the main stem to St. Louis, will command the western travel and business. If that

control is exercised by Pennsylvania capital, the business will go by that route, and the Baltimore and Ohio connection will only form a subordinate branch.

It is not to be denied, that the river trade of the city of Pittsburg will be seriously affected by the completion of the Baltimore and Ohio railroad, as well as of the Richmond and Ohio road. The trade below Marietta will be lost. But, on the other hand, we have the prospect of being richly indemnified by the vast trade and travel which is destined to flow through that great system of improvement, of which the Great Central road will form the main trunk line. The tributes of commerce, which from their extensive net of artificial improvements, will flow like a torrent into Pennsylvania, will not only richly cover the partial loss of an uncertain river navigation, but it will also greatly magnify the extent and operations of our manufactures.

The question may be asked, why it is not recommended to pass with the main line of the Great Central railroad through Cincinnati, the Queen of the West? The reasons are obvious. As the grand object of the trunk line is, to tap the Lake trade at its principal sources, we should greatly weaken our ability of doing so, by keeping too far South. We should thereby give the New York line an undue advantage over us, while we would gain but very little more on the South. The greater population and traffic will, for the future, be found in the grain growing regions, which are situated north of Cincinnati, or north of the 39th degree of latitude. New York and Boston are directing their efforts to these regions. The fact is, that the position of St. Louis is most too far south for the western terminus of our line. But it is highly important to reach this city, which is destined to be the greatest inland city on this continent. On the other hand, the navigation of the immense water courses of the Missouri and Mississippi, will concentrate such a vast trade at St. Louis, that the future accumulation of this traffic may equal the aggregate business derived from the States of Ohio, Indiana and Illinois. Cincinnati is making efforts to reach New York. We will meet it on its way and offer it a more expeditious route. The railroad now in operation from Cincinnati to Springfield, will offer great facilities to the former city, for the use of the Central road, as could be created by passing through it. Another objection to a location through Cincinnati would be, that a portion of the St. Louis trade would be diverted to the Virginia route, by following the river from Cincinnati to Guyandot. Cincinnati, itself, would derive little additional advantage from making it a point in the main line. That city will shortly form the very centre of a great net of railways, diverging in all directions.

A location north of the proposed route, say due west of Pittsburg, would also appear objectionable for two reasons: First, it would enlarge the scope of country, for the extension of the main trunk line of the Baltimore and Ohio railroad. Secondly, it would be brought into too close a proximity with the New York line, along the southern shore of lake Erie. By pursuing, however, the route proposed, it may not be altogether improbable that the Baltimore and Ohio Company, instead of connecting with our main stem at Columbus, will prefer to pursue a direct course from Parkersburg to Cincinnati. The latter city will, of course, encourage such a plan. Baltimore will gain more by a direct connection with the Queen City, than they can accomplish by any other route. Such connection will enable them most effectually to compete successfully with the

Richmond and Ohio route. We, of course, shall be rejoiced to see the city of Baltimore and the Baltimore and Ohio railroad thrive well, if such can take place without affecting materially our own interests.

We shall not allow our policy to be governed by feelings of envy. A generous, high minded and honorable rivalry shall prompt us in the pursuit of our enterprise—we will remember that the Great West offers room for us all!

(To be Continued.)

Atlantic and St. Lawrence Railroad.

The Portland Bulletin has the following intelligence concerning the progress of this work:—"Continued trains of teams heavily laden with piles and timber for abutments to protect the railroad from the influence of the sea, and for bridging, have been pouring into the city for a fortnight past. A bridge for a double track, below low water mark, is to be built from Fish Point (Mount Joy,) to India wharf, foot of India street. A contract has been made with Messrs. Seward, Merrill and George Turner for the completion of this bridge, and the building will commence immediately. The company have purchased India and Steamboat wharves, with a view, we believe, of ultimately building an immense depot in that section. The bridge to the eastward of, and running nearly parallel with Turkey's bridge, over Back Cove, is, we understand, to be built by the company.

"The second section of this road, extending from North Yarmouth to the old tavern road near Lewiston, a distance of 17 miles, is rapidly leveling before the efforts of a very large gang of hands. The dykes and culverts are nearly finished, and large sections of the grades are ready for the layer of gravel.

"Preparations are in progress for building the bridges over the Presumpscot and Royal rivers, and it is not improbable that by next Fall the cars will be running on the whole route between this city and Lewiston. The Waterville railroad enterprise seems to meet with especial favor from all quarters, with the exception of the Boston influence, which as usual is opposed to every improvement that does not concentrate in the City of Nations. The amount necessary for the organization of the company has already been subscribed, and an organization will immediately commence."

Lewiston and Portland Railroad.

The Portland Advertiser has a lengthy and spirited article in a late number, upon the railroad meeting which took place there on Saturday night week. The City Hall was crowded full with people, combining the substantial strength of Portland, of all classes and interests. The Mayor, E. GREENLY, Esq., presided, and speeches were made by Wm. Goodnow, Esq., Judge Ware, Messrs. Jos. Adams, John Anderson, Judge Preble, R. A. L. Codman, John A. Poor and J. S. Little—each of whom, says the Advertiser, in a varied line of fact and argument, displayed and enforced the principles of science and public economy, applicable to this enterprise, and blending the whole with appeals, regarding not only the interest of Portland, but the development and advantage of the whole State, which were answered with earnest and frequent applause. A series of resolutions were passed by the meeting, from which we extract the following.

Resolved, That the people of Maine should take a strong and general interest in the early establishment of a central line of railroad connecting the interior of the State with the seaboard in the direction affording the nearest and best access to the principal markets.

Resolved, That the railroad now chartered from Lewiston to Waterville is most favorably located to form an important part of such a central line, both because it is as direct as any that can practically be adopted, and because it will reach and benefit great variety and amount of the local productive resources of the State.

Resolved, That we acknowledge the generous and liberal spirit with which so large a portion of the people in the interior are seeking to unite themselves with us in this enterprise, and that Portland must not be found wanting in reciprocating an equal cordiality and effective cooperation.

Resolved, That the amount of \$100,000, which is expected from Portland as a subscription to this stock, is not larger than we ought to raise—and that it can be done—and must be done—and shall be done forthwith.

Resolved, That we acknowledge the valuable services of those of our fellow-citizens who have already moved in this enterprise, and have subscribed or procured a large part of the amount above named; and that this meeting will appoint a committee of twenty-one to go forward and procure the balance of the subscription in the shortest possible time.

Miscellanea.

Another Great Improvement in Mechanism for Speed in Printing.—Messrs. R. Hoe & Co., of New York, have been some months past manufacturing to order, for the Public Ledger, a printing machine, of a different principle from any press hitherto used, and calculated for a rate of speed and rapidity of operation entirely in advance of any press yet invented for use on American made paper. The machine was invented by Col. R. M. Hoe, the senior partner of that extensive manufacturing house, under whose care and superintendance this one, the first and only one yet manufactured, or even ordered, has been built. It has been completed, and we were called upon last week to go to New York and view the machine in operation before having it taken down to be forwarded here. We have done so, and had the pleasure of seeing it run at the rate of about ten thousand impressions per hour. The principle is such that it can be carried up to twelve, fifteen, eighteen, and even twenty thousand impressions per hour. As far as speed alone is concerned, the principle of this invention may be said to be the acme of perfection in the art of printing, as is Morse's Electro-magnetic Telegraph in the speed of transmitting information.—*Philadelphia Ledger.*

The Augusta Grist Mill.—Of all the new machinery recently put in operation upon the Kennebec dam, none seems to promise more satisfactory results than the new grist mill recently erected by J. D. Emery, Esq. This mill is constructed on the most improved plan, so far as machinery is concerned, and will

contain when completed, six runs of the best quality of Burr stones, besides a corncracker, cleansers, etc. Four runs of these stones, for the custom work, with the necessary apparatus for cleansing, bolting, etc., and a corn cracker, are now in operation. Two additional stones, designed for the manufacture of flour for the market, will be set in operation as soon as the river opens in the Spring. The machinery of this portion of the mill is of the very first quality, and will produce flour fully equal to the best now manufactured in the country. That such an establishment was demanded by the wants of the community is fully established by the fact that it has been constantly thronged with customers since it was first started. The machinery works in the most satisfactory manner. The proprietor sent us a specimen of Indian meal made from corn which had been cracked with the cobs, and then ground. From this meal we have had some of the best "Jonny cake" we ever tasted. The machinery in this mill has been put up under the superintendence of Mr. David Beedy, Jr., a skillful and intelligent millwright.—*Augusta Age.*

New Cannon.—Mr. Isaac Detheridge has invented a cannon of a very novel and ingenious construction, for which he has a caveat at the Patent office. It is composed of rings and rods, with screws at the ends, and can be taken apart and put together again in a few minutes. It is made entirely of wrought iron, and overcomes, it is asserted, the difficulties complained of in that species of guns. Besides which, for crossing mountains and mrases, there could not be anything more complete, as it can be taken apart and loaded on the backs of mules or packed in the ordinary baggage train. It is also as safe in firing as any other canon: perhaps all the attention having been paid to that quality.

Improved Carriage Spring.—Mr. Wm. S. Thomas, of Norwich, Ct., has furnished us with a drawing and description of an ingenious and apparently excellent improvement in springs for coaches and light carriages. This improvement is not calculated to come into competition with that of Mr. Snow, described in this paper two or three weeks since, but may be preferred on light fancy coaches, etc. The elliptic spring is in this retained, with the addition of a longitudinal U spring with a peculiarly broad iron reach, constructed to accommopate the U springs, which are moreover to be occasionally supported by additional interior plates. The inventor is but an apprentice, or at least a minor, and should be encouraged to persevere in advancing improvements, and with accumulated experience will probably be enabled to introduce improvements of greater magnitude.—*N. York Farmer.*

Valuable Discovery.—Mr. L. B. Swan, of Rochester, has discovered a new solution or exciting liquid for the galvanic battery, which saves 75 per cent in the material employed, besides a large amount of labor and attention. It has been used at the Telegraph station in that city with great success. Mr. Swan has applied for letters patent.

RICH & CO'S IMPROVED PATENT SALAMANDER SAFES.

Warranted free from dampness, as well as fire and thief proof.

Particular attention is invited to the following certificates, which speak for themselves:

TEST No. 10.

Certificate from Mr. Silas C. Field, of Vicksburg, Mississippi.

On the morning of the 14th ult., the store owned and occupied by me in this city, was, with its contents, entirely consumed by fire. My stock of goods consisted of oil, rosin, lard, pork, sugar, molasses, liquors, and other articles of a combustible nature, in the midst of which was one of Rich's Improved Patent Salamander Safes, which I purchased last October of Mr. Isaac Bridge, New Orleans, and which contained my books and papers. This safe was red hot, and did not cool sufficiently to be opened until 16 hours after it was taken from the ruins. At the expiration of that time it was unlocked, when its contents proved to be entirely uninjured, and not even discolored. I deem this test sufficient to show that the high reputation enjoyed by Rich's Safes is well merited.

S. C. FIELD.

TEST No. 11.—Certificate.

By the fire which occurred in this village on the 27th July last, our Law Office, together with many other buildings, was destroyed—we had in our office one of Rich's Improved Patent Salamander Safes, which, though heated red hot, preserved, without being the least damaged, many papers valuable to our clients—the envelopes of a few papers being slightly scorched. Some twenty-four hours after the fire, the Safe was removed, and so hot was it, that several hours were required for it to cool off. Our office was in the second story of a large brick building, all the wood used in construction of said house being pitch pine. While the Safe was red hot, one of the walls tumbled in, and so injured the lock that it was necessary to break the door open. From this test, we feel no hesitancy in recommending "Rich's Patent Salamander Safe" as entirely fire proof.

GORE & KING.

Marion, Ala., Sept. 15th, 1846.

Still other Tests in the Great Fire of July 19, 1845.

The undersigned purchased of A. S. Martin, No. 138½ Water street, one of Rich's Improved Patent Salamander Safes, which was in our store, No. 54 Exchange place. The store was entirely consumed in the great conflagration, on the morning of the 19th inst. The safe was taken from the ruins 52 hours after, and on opening it, the books and papers were found entirely uninjured by fire, and only slightly wet—the leather on some of the books was parched by the extreme heat.

RICHARD & CRONKHITE.

Benton, Miss., December 27, 1846.

One of Rich's Improved Salamander Safes, which I purchased on the 2d of June last of A. S. Marvin, 138½ Water street, agent for the manufacturer, was exposed to the most intense heat during the late dreadful conflagration. The store which I occupied, No. 46 Broad street, was entirely consumed; the safe fell from the 2d story, about 15 feet, into the cellar, and remained there 14 hours, and when found, I am told, and from its appearance afterwards, should judge that it had been heated to a red heat. On opening it, the books and papers were found not to have been touched by fire. I deem this ordeal sufficient to confirm fully the reputation that Rich's safe has already obtained for preserving its contents against all hazards.

(Signed.)
WM. BLOODGOOD.

New York, 21st July, 1845.

Reference made to upwards of nine hundred and fifty merchants, cashiers, brokers, and officers of courts and counties, who have Rich's Safe's in use.

The above safes are finished in the neatest manner, and can be made to order at short notice, of any size and pattern, and fitted to contain plate, jewelry, etc. Prices from \$50 to \$500 each. For sale by

A. S. MARVIN, General Agent,
138½ Water st., N. Y.

Also by Isaac Bridge 76 Magazine street, New Orleans.

Also by Lewis M. Hatch, 120 Meeting street, Charleston, S. C.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTOR, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. McKee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckley & Drury, Boston, will be promptly executed.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

* * * The letters in the figures refer to the article given in the *Journal of June, 1844.*

ja45

PATENT HAMMERED RAILROAD, SHIP AND BOAT SPIKES.

The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed.

JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston.

ja45

MACHINE WORKS OF ROGERS,

Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
243 Paterson, N. J., or 60 Wall street, N. York.



PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal iron merchants in Albany and Troy; J. I. Brower, 223 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

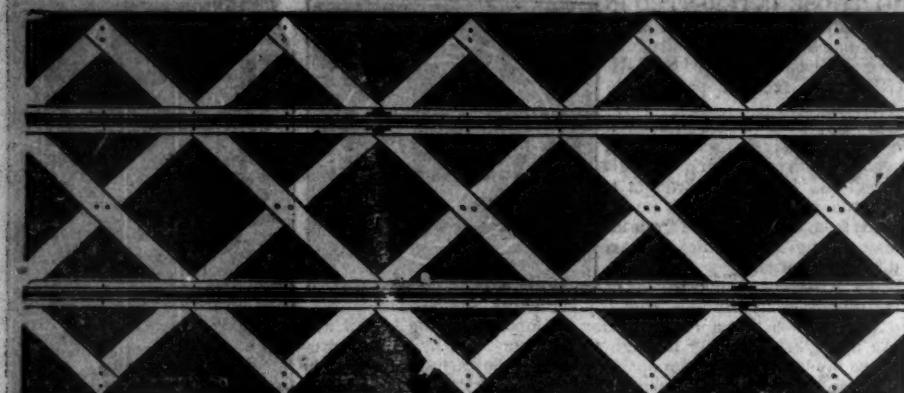
* * * Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

DAVENPORT & BRIDGES CONTINUE
to Manufacture to Order, at their Works, in Cambridgeport, Mass., Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes.

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFUL
ly invites the attention of Engineers, and Rail-road Companies, to some highly important improvements he has recently made in the Herron system of the trellis for the purpose of giving an additional, Railway structure. These improvements enable him to effect a very large reduction in the quantity which rest upon it. Should these joint blocks be of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of roads, they can be readily replaced without any damage in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only $\frac{1}{2}$ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails, which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.

4,224 Timbers, 11 ft. long, 3 x 6 inches =	68,696 ft. b.m., at \$10 =	\$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. =	4,403 ft. b.m., at \$13 =	57 24
13,000 Spikes = 2,250 lbs. at 4 $\frac{1}{2}$ cts.	101 25	
Workmanship free of patent charge	600 00	

Cost of one mile including the laying of the Rail \$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.

Civil Engineer and Patentee.

No. 277 South Tenth St., Philadelphia. 33tf

1y25

below Walnut, Philadelphia.

No 23 Pear street,

ly10 near Third,

below Walnut, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES

FOR TUBULAR BOILERS,

FROM 1 1-4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.
These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

28 Platt street, New York.

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THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address J. M. HOWE,
Pres't. Mt. Savage Iron Works,
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RAILROAD IRON.—THE "MONTOUR IRON COMPANY," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO., Agents.

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RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the lineal yard, which they offer for sale on favorable terms, also, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail.

Nov. 16, 1846.

461f

ENGINEERS and MACHINISTS.
THOMAS PROSSER, 28 Platt St. N. Y. (See Adv.)

J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (See Adv.)

TROY IRON AND NAIL FACTORY, H. Burden, Agent. (See Adv.)

ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (See Adv.)

S. VAIL, Speedwell Iron Works, near Morris-town, N. J. (See Adv.)

NORRIS, BROTHERS, Philadelphia Pa. (See Adv.)

FRENCH & BAIRD, Philadelphia. (See Adv.)

NEWCASTLE MANUFACTURING COMPA-

NY, Newcastle, Del. (See Adv.)

ROSS WINANS, Baltimore, Md.

CYRUS ALGER & Co., South Boston Iron Co.

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ANDREW MENEELY, West Troy.

JOHN F. STARR, Philadelphia, Pa.

MERRICK & TOWNE, do.

HINCKLEY & DRURY, Boston.

C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—

For sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,

75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPE.			Hempen Ropes.			Chains.			Strength	
Wire gauge number.	Circumference of rope.	Weight per fathom.	Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.		Tons.	
	INCH.	LBS. OZ.	INCH.	LBS. OZ.		LBS.	INCH.			
11	4 $\frac{1}{2}$	13 5	10	24	—	50	15-16	20		
13	3 $\frac{1}{2}$	8 3	8 $\frac{1}{2}$	16	—	27	11-16	13 $\frac{1}{2}$		
14	3 $\frac{1}{2}$	6 11	7 $\frac{1}{2}$	12	8	17	9-16	10 $\frac{1}{2}$		
15	2 $\frac{1}{2}$	5 2	6 $\frac{1}{2}$	9	4	13 $\frac{1}{2}$	1-2	7 $\frac{1}{2}$		
16	2 $\frac{1}{2}$	4 3	6	8	8	10 $\frac{1}{2}$	7-16	7		

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion.

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